



Illinois Wesleyan University Digital Commons @ IWU

John Wesley Powell Student Research
Conference

2010, 21st Annual JWP Conference

Apr 10th, 9:00 AM - 10:00 AM

Effects of Temperature on the Intracapsular Embryonic Development of the Freshwater Gastropod *Physa Acuta*

Alyssa Ray

Illinois Wesleyan University

William Jaeckle, Faculty Advisor

Illinois Wesleyan University

Follow this and additional works at: <http://digitalcommons.iwu.edu/jwprc>

 Part of the [Biology Commons](#)

Ray, Alyssa and Jaeckle, Faculty Advisor, William, "Effects of Temperature on the Intracapsular Embryonic Development of the Freshwater Gastropod *Physa Acuta*" (2010). *John Wesley Powell Student Research Conference*. 15.
<http://digitalcommons.iwu.edu/jwprc/2010/posters/15>

This Event is brought to you for free and open access by The Ames Library, the Andrew W. Mellon Center for Curricular and Faculty Development, the Office of the Provost and the Office of the President. It has been accepted for inclusion in Digital Commons @ IWU by the faculty at Illinois Wesleyan University. For more information, please contact digitalcommons@iwu.edu.

©Copyright is owned by the author of this document.

Poster Presentation P41

**EFFECTS OF TEMPERATURE ON THE INTRACAPSULAR EMBRYONIC
DEVELOPMENT OF THE FRESHWATER GASTROPOD *PHYSA ACUTA***

Alyssa Ray and William Jaeckle*
Biology Department, Illinois Wesleyan University

Temperature is an important factor regulating the growth and development of organisms. I studied the effect of temperature on the development of the freshwater gastropod *Physa acuta*. Egg capsules from thirteen separate egg masses were isolated and distributed among three environmental temperatures (22°C, 25°C, and 28°C) and checked daily. Capsule and juvenile dimensions and hatching time were recorded for each egg capsule. Data analysis confirmed that increased temperature had a significant acceleratory effect on embryonic developmental rate for all egg masses. In 85% of the egg masses temperature also had a significant and positive effect on juvenile snail size, but no influence on shell shape. When all data were pooled, juvenile length and juvenile volume were not correlated with capsule size ($r > 0.03$, $p = 0.65$), but hatch day was negatively related to capsule size ($r = -0.18$, $p = 0.007$). Among egg capsule size groups, average hatch day and juvenile size were significantly different ($p < 0.001$) among temperature treatments. Data analysis of the larger group revealed the same observed effects of temperature as those described previously, when all egg masses were considered. Analysis of the smaller group, however, indicated no significant difference in days to hatching between 22°C and 25°C, though each was significantly less than that at 28°C. Additionally, a significant difference in both juvenile length and juvenile volume was found between 22°C and 28°C for this group, although neither temperature was significantly different from 25°C.